

Appl. No. 09/131,141
Amdt. Dated October 22, 2003
Reply to Office Action of July 31, 2003

REMARKS/ARGUMENTS

This Amendment is in response to the Office Action mailed July 31, 2003. In the Office Action, the Examiner rejected (i) claims 9, 11 and 14 under 35 U.S.C. § 102(e), (ii) claims 19-22 under 35 U.S.C. § 102(e), and (iii) claims 1-3, 4-5, 6-8 under 35 U.S.C. § 103(a). Reconsideration in light of the amendments and remarks made herein is respectfully requested.

Double Patenting

1. The Examiner rejects claims 1-22 under the judicially created doctrine of the obviousness-type double patenting of the claim of copending Application No. 09/271,011. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Rejection Under 35 U.S.C. § 102

1. The Examiner rejects claims 9, 11 and 14 under 35 U.S.C. § 102(e) as being anticipated by Simmons (US 6,192,028) ("Simmons").

Simmons discloses a method and apparatus to provide programmable thresholds for half-duplex flow control in a network switch. The network switch includes MAC ports for sending and receiving data packets (Simmons, Col. 6, lines 5-9). Each of the MAC ports has a receive FIFO and a transmit FIFO (Simmons, Col. 6, lines 14-15). Frames are received and placed in the corresponding FIFO (Simmons, Col. 7, lines 47-49). A rule checker makes the forwarding decision and identifies at least one destination port based on the corresponding header information, and generates a forwarding instruction in a form of a port vector (Simmons, Col. 8, lines 7-12). The port vector is examined to determine which particular output queue the frame pointer associated with the port vector should be input (Simmons, Col. 8, lines 23-26).

Simmons does not disclose, inherently or expressly, (1) storing the frames in the corresponding plurality of records within the buffer in order of receipt, (2) assigning a pointer value to each of the records denoting a relative order of frame transmission of each of the frames, and (3) the pointer value determining an order according to complete reception of the frame in which the corresponding frame is promoted from the buffer to a system state.

Simmons merely discloses identifying the destination port address based on the header information and forms a port vector (Simmons, Col. 8, lines 7-12). The port vector merely determines which particular output queue the frame pointer should be input (Simmons, Col. 8, lines 23-26). The port vector does not assign a pointer value denoting a relative order of frame. It only indicates the destination port address. Furthermore, it does not determine an order according to complete reception of the frame in which the corresponding frame is promoted to a system state. It is used merely to queue the transmission of the data frame from the corresponding destination port (Simmons, Col. 8, lines 27-31).

Appl. No. 09/131,141
Amdt. Dated October 22, 2003
Reply to Office Action of July 31, 2003

2. The Examiner rejects claims 19-22 under 35 U.S.C. § 102(e) as being anticipated by Muller et al (US 6,021,132) ("Muller").

Muller discloses a shared memory management in a switched network element. Incoming packet data are transferred to a shared memory manager for temporary storage in an external shared memory (Muller, Col. 5, lines 55-57). Buffer pointers are requested from the shared memory manager for storage of incoming packets (Muller, Col. 5, lines 52-54). Upon receipt of a buffer pointer, an output port stores the pointer in an output queue until it can be transmitted onto attached links (Muller, Col. 7, lines 20-22).

Muller does not disclose, inherently or expressly, (1) storing the frames in the corresponding plurality of records within the buffer in order of receipt, (2) assigning a pointer value to each of the records denoting a relative order of frame transmission of each of the frames, and (3) the pointer value determining an order according to complete reception of the frame in which the corresponding frame is promoted from the buffer to a system state.

Muller merely discloses pointers to point to the data. These pointers merely provide a level of indirection (Muller, Col. 6, lines 53-57). They do not determine an order for promotion. Furthermore, the shared memory does not promote frames to a system state. It is allocated from a common pool of memory (Muller, Col. 6, lines 60-63; Col. 7, lines 58-67).

Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claims 9, 11 and 14 under 35 U.S.C. § 102(b) and claims 19-22 under 35 U.S.C. § 102(e).

Rejection Under 35 U.S.C. § 103

1. The Examiner rejects claims: (1) 1-3 and 6-8 under 35 U.S.C. § 103(a) as being unpatentable over Bellenger (US 5,802,054) ("Bellenger") in view of Muller (US 6,021,132) ("Muller"), (2) claims 4-5 under 35 U.S.C. § 103(a) as being unpatentable over Bellenger in view of Muller and further in view of Frazier et al (US 6,092,202) ("Frazier"), and (3) claims 10, 12-13 and 15-18 under 35 U.S.C. § 103(a) as being unpatentable over Simmons in view of Frazier.

Bellenger discloses an atomic network switch with integrated circuit switch nodes. A flow detect logic monitors the frame received in the node to detect flows and generates identifying tags for the purpose of accessing the switch route table (Bellenger, Col. 9, lines 4-8). As the data is being moved from the input port to the buffer, a series of hash cods is computed for various sections of the input data stream (Bellenger, Col. 15, lines 14-17). The result is a 64-bit random number identifying the particular IP flow (Bellenger, Col. 15, lines 25-26).

Frazier discloses a full duplex flow control for Ethernet networks. When a RX_DV is asserted, the MAC receive processing logic accepts and processes data from the physical layer (Frazier, Col. 6, lines 11-15).

Muller and Simmons are analyzed as discussed above.

Appl. No. 09/131,141
Amdt. Dated October 22, 2003
Reply to Office Action of July 31, 2003

Bellenger, Muller, Frazier, and Simmons taken alone or in any combination, do not disclose, suggest, or render obvious (1) generating a pointer value based on a relative order in which the respective indication is asserted, (2) generating a pointer value differing from a pointer value associated with remaining frames, and (3) the corresponding pointer value determining an order according to complete reception of the frame in which the respective frame is promoted from a receiver buffer to a system state without modifying the respective frame.

The Examiner states that Bellenger discloses generating a tag or has value as equivalent to a corresponding pointer value (Office Action, Page 7). Applicants respectfully disagree. The tag merely identifies the addressed location (Bellenger, Col. 9, lines 18-22). The hash code is looked up in or used to access a local memory (Bellenger, Col. 15, lines 27-28). Therefore, the tag or hash code does not determine an order in which the respective frame is promoted. Furthermore, they are not based on a relative order in which the indication is asserted. Similarly, Muller does not disclose or suggest any of the above limitations as discussed in the 102 rejections.

The Examiner states that there is no such language of assignment of a different pointer value to each frame in claims 1-3 and 6 (Office Action, Page 17). Applicants respectfully direct the Examiner's attention to claim 1 where the claim recites in part "the pointer value being based, at least in part, on a relative order in which the respective indication is asserted and differing from a pointer value associated with remaining frames of the plurality of frames". The claim language clearly states that there is a different pointer value associated with the remaining frames. This distinction, however, is only one of the many distinctions that the claimed invention is distinguishable from the cited prior art references. Nowhere in any of the cited references that the feature "the pointer value being based on a relative order in which the respective indication is asserted" and "the corresponding pointer value being used to determine an order according to complete reception of the frame in which the respective frame is promoted from a receive buffer to a system state".

The Examiner further states that there is no language in the claims to exclude the interpretation of Simmons' FIFO to read on the disputed claimed limitations (Office Action, Page 18). However, as argued above, the Examiner has failed to show that Simmons and/or Muller discloses the claimed aspects of the inventions relating to the relative order of frame transmission of each of the frames and an order according to complete reception of the frame in which the corresponding frame is promoted from the buffer to a system state.

Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claims 1-3, 4-5, 6-8, 10, 12-13 and 15-18 under 35 U.S.C. § 103(a).

Appl. No. 09/131,141
Amdt. Dated October 22, 2003
Reply to Office Action of July 31, 2003

Conclusion

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: 10/22/2003

By

Thinh V. Nguyen

Reg. No. 42,034

Tel.: (714) 557-3800 (Pacific Coast)

12400 Wilshire Boulevard, Seventh Floor
Los Angeles, California 90025

CERTIFICATE OF MAILING/TRANSMISSION (37 CFR 1.84)

I hereby certify that this correspondence is, on the date shown below, being:

MAILING

FACSIMILE

☐ deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450.

☒ transmitted by facsimile to the Patent and Trademark Office.

Pat Sullivan

Pat Sullivan

10/22/03
RECEIVED
CENTRAL FAX CENTER
OCT 22 2003

OFFICIAL